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IBM CORPORATION
ROCHESTER IP LAW DEPT. 917
3605 HIGHWAY 52 NORTH
ROCHESTER, MN 55901-7829

EXAMINER

NGUYEN, THUONG

ART UNIT

PAPER NUMBER

2155

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

TRADEMARK OFFICE

ENTIRE CONTENTS
OF THIS APPLICATION

Michael James McDermott

Office Action Summary

Application No.

10/631,936

Applicant(s)

MCDERMOTT ET AL.

Examiner

Thuong (Tina) T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/31/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed on 3/8/06. Claims 1-2, 4, 7-13, 15, 18-30 were amended. Claims 1-30 are pending. Claims 1-30 represent method and apparatus for validating and ranking resources for geographic mirroring.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 12 and 22 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 10 and 18 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably

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distinct from each other because they are performing the same thing such as configuring, validating and selecting the availability for the disk units or resource pool.

4. Claims 2, 13 and 25 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9, 17 and 20 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as configuring the storage pool as the switchable storage pool.

5. Claims 4, 15 and 23 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 10 and 18 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as ranking and selecting the available disks for the storage pool.

6. Claims 5, 16 and 24 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2, 11 and 19 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing claim such as providing explanations of the status condition.

7. Claims 6 and 17 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3 and 12 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as comprising the clustered system.

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8. Claims 7 and 26 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4 and 21 of U.S. Patent No. 09/915,907.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as comprising a primary system and backup system.

9. Claims 8, 18 and 27 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 5, 13 and 22 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as validating and determined the accessibility of each disk unit are the same with the storage resource pool.

10. Claims 9, 19 and 28 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6, 14 and 23 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as verifying the accessibility of each disk unit when adding the switchable storage pool.

11. Claims 10, 20 and 29 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7, 15 and 24 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as verifying the switchable storage pool.

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12. Claims 11, 21 and 30 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 16 and 25 of U.S. Patent No. 09/915,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are performing the same thing such as validating and raking of each disk unit.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-2, 4-11, 12-13, 15-21, 22-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson Patent No. 2003/0135609 A1. Carlson teaches the invention as claimed including method, system, and program for determining a modification of a system resource configuration (see abstract).

15. As to claim 1, Carlson teaches a method comprising:

configuring at least one data storage device for use by a node, wherein the node is associated with a site containing the data storage device (page 5, paragraph 56;

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Carlson discloses that the method of configuring the resources such as storage device and its paths which corresponding to each other);

validating availability of the at least one data storage device for inclusion in a data storage resource pool, wherein the validating comprises determining that the node has access to the data storage device and verification that the at least one data storage device is located at the site (page 5, paragraph 55; page 7, paragraph 74; Carlson discloses that the method of keep track of the availability of the storage devices and allocated the service configuration and the associated path); and

selecting, based upon the validating, at least one of the at least one data storage device for inclusion in the data storage resource pool (page 7, paragraph 71; Carlson discloses that the method of selecting the service configuration policies based on the availability, performance, and path redundancy of the storage device).

16. As to claim 2, Carlson teaches the method as recited in claim 1, comprising configuring the data storage resource pool as a switchable disk pool that is able to be configured to be assigned to one of at least two computing nodes (page 7, paragraph 75; Carlson discloses that the method of configuring API proxy objects capable of configuring switches including paths).

17. As to claim 3, Carlson teaches the method as recited in claim 1, wherein the node is a single node located at the site and the node operates as part of a geographically disperse computing system group (page 7, paragraph 70 & 73; Carlson discloses that the method of reference to the resource in a path and allocation of the additional paths of the storage devices).

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18. As to claim 4, Carlson teaches the method as recited in claim 1, comprising:

ranking availability of each disk unit for the data storage resource pool (page 10, paragraph 95 & 96; Carlson discloses that the method of indicating the level of availability from the configuration of the storage devices and configuring the policy that satisfied certain service level metrics such as performance, availability of the storage devices); and

selecting at least one valid disk unit for the data storage resource pool according to availability ranking (page 11, paragraph 12; Carlson discloses that the method of selecting the low latency for a storage device or high latency indicates a high level of availability of the storage devices).

19. As to claim 5, Carlson teaches the method as recited in claim 4, comprising providing at least one reason to a user to explain validity and ranking of each disk unit (page 8, paragraph 86; page 11, paragraph 104; page 12, paragraph 117; Carlson discloses that the method of displaying to the user the service configuration policies which explain their availability and capabilities and the level of service such as gold, silver, bronze).

20. As to claim 6, Carlson teaches the method as recited in claim 1, wherein the node is part of a cluster resource group (figure 1).

21. As to claim 8, Carlson teaches the method as recited in claim 6, comprising:

validating accessibility of data storage devices in the data storage resource pool when adding a new node to a cluster resource group recovery domain, wherein the validating comprises:

determining that the node is associated with a site containing the data storage resource pool (page 3, paragraph 45; Carlson discloses that the method of determined the storage device access service resource available), and

determining that the data storage resource pool is accessible by the new node (page 6, paragraph 67; Carlson discloses that the method of determined the storage devices which provided the availability of the storage devices and paths).

22. As to claim 9, Carlson teaches the method as recited in claim 6, comprising when adding a switchable data storage resource pool to the cluster resource group, verifying accessibility of each data storage device in the switchable data storage resource pool by each node in the cluster resource group recovery domain located at the site (page 3, paragraph 48; Carlson discloses that the method of verifying the availability when adding the new allocation storage resources).

23. As to claim 10, Carlson teaches the method as recited in claim 9, comprising verifying that a switchable entity containing the switchable data storage resource pool is not included in another cluster resource group (page 6, paragraph 63; Carlson discloses that the method of mapping the logical to physical storage according to the configuration policy).

24. As to claim 11, Carlson teaches the method as recited in claim 6, comprising validating, when starting clustering switchability of the switchable data storage resource pool between at least two nodes within the cluster resource group (page 9, paragraph 90 & 91; Carlson discloses that the method of determined the allocation and resource capabilities of the storage device).

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25. As to claim 12, Carlson teaches the program comprising:

configuring at least one data storage device for use by a node, wherein the node is associated with a site containing the data storage device (page 5, paragraph 56; Carlson discloses that the program of configuring the resources such as storage device and its paths which corresponding to each other);

validating availability of the at least one data storage device for inclusion in a data storage resource pool, wherein the validating comprises determining that the node has access to the data storage device and verification that the at least one data storage device is located at the site (page 5, paragraph 55; page 7, paragraph 74; Carlson discloses that the program of keep track of the availability of the storage devices and allocated the service configuration and the associated path); and

selecting, based upon the validating, at least one of the at least one data storage device for inclusion in the data storage resource pool (page 7, paragraph 71; Carlson discloses that the program of selecting the service configuration policies based on the availability, performance, and path redundancy of the storage device).

26. As to claim 13, Carlson teaches the program as recited in claim 12, wherein the steps further comprise configuring the data storage resource pool as a switchable disk pool that is able to be configured to be assigned to one of at least two computing nodes (page 7, paragraph 75; Carlson discloses that the program of configuring API proxy objects capable of configuring switches including paths).

27. As to claim 14, Carlson teaches the program as recited in claim 12, wherein the node is a single node located at the site and the node operates as part of a

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geographically disperse computing system group (page 7, paragraph 70 & 73; Carlson discloses that the program of reference to the resource in a path and allocation of the additional paths of the storage devices).

28. As to claim 15, Carlson teaches the program as recited in claim 12, wherein the steps further comprise:

ranking of each resource for the data storage resource pool (page 10, paragraph 95 & 96; Carlson discloses that the program of indicating the level of availability from the configuration of the storage devices and configuring the policy that satisfied certain service level metrics such as performance, availability of the storage devices); and

selecting at least one valid data storage resources for the resource pool according to results of the ranking (page 11, paragraph 12; Carlson discloses that the program of selecting the low latency for a storage device or high latency indicates a high level of availability of the storage devices).

29. As to claim 16, Carlson teaches the program as recited in claim 15, wherein the steps comprise providing at least one reason to a user to explain validity and ranking of each resource (page 8, paragraph 86; page 11, paragraph 104; page 12, paragraph 117; Carlson discloses that the program of displaying to the user the service configuration policies which explain their availability and capabilities and the level of service such as gold, silver, bronze).

30. As to claim 17, Carlson teaches the program as recited in claim 12, wherein the node is part of a cluster resource group (figure 1).

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31. As to claim 18, Carlson teaches the program as recited in claim 17, wherein the steps comprise:

validating accessibility of data storage device in the data storage resource pool when adding a node to the cluster resource group recovery domain, wherein the validating comprises:

determining that the node is associated with a site containing the data storages resource pool (page 3, paragraph 45; Carlson discloses that the program of determined the storage device access service resource available), and

determining that the data storage resource pool is accessible by the new node (page 6, paragraph 67; Carlson discloses that the program of determined the storage devices which provided the availability of the storage devices and paths).

32. As to claim 19, Carlson teaches the program as recited in claim 17, wherein the steps comprise verifying accessibility of each data storage device in the switchable data storage resource pool by each node in the cluster resource group recovery domain when adding a switchable resource pool to the cluster data storage resource group (page 3, paragraph 48; Carlson discloses that the program of verifying the availability when adding the new allocation storage resources).

33. As to claim 20, Carlson teaches the program as recited in claim 17, wherein the steps comprise verifying that a switchable entity containing the switchable data storage resource pool is not included in another cluster resource group (page 6, paragraph 63; Carlson discloses that the program of mapping the logical to physical storage according to the configuration policy).

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34. As to claim 21, Carlson teaches the program as recited in claim 17, wherein the steps comprise validating, when starting clustering, switchability of the switchable data storage resource pool between at least two nodes within the cluster resource group (page 9, paragraph 90 & 91; Carlson discloses that the program of determined the allocation and resource capabilities of the storage device).

35. As to claim 22, Carlson teaches a system, comprising:

a primary node that is associated with a site (page 5, paragraph 56; Carlson discloses that the system of configuring the resources such as storage device and its paths which corresponding to each other);

a data storage resource pool connected to the primary node (page 13, paragraph 126; page 15, paragraph 143; Carlson discloses that system of associating the storage device through the switch which associate with the resource pool); and

a processor configured to validate availability of at least one disk unit for the data storage resource pool (page 5, paragraph 55; page 7, paragraph 74; Carlson discloses that the system of keep track of the availability of the storage devices and allocated the service configuration and the associated path) and to select at least one valid disk unit for the data storage resource pool, wherein the availability is validated based at least in part on the at least one disk unit being located at the site (page 7, paragraph 71; Carlson discloses that the system of selecting the service configuration policies based on the availability, performance, and path redundancy of the storage device).

36. As to claim 23, Carlson teaches the system as recited in claim 22, wherein the processor is further configured to rank each disk unit for the data storage resource pool

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(page 10, paragraph 95 & 96; Carlson discloses that the system of indicating the level of availability from the configuration of the storage devices and configuring the policy that satisfied certain service level metrics such as performance, availability of the storage devices) and select at least one valid disk unit for the data storage resource pool according to ranking (page 11, paragraph 12; Carlson discloses that the system of selecting the low latency for a storage device or high latency indicates a high level of availability of the storage devices).

37. As to claim 24, Carlson teaches the system as recited in claim 23, wherein the processor is further configured to provide at least one reason to a user to explain validity and ranking of each disk unit (page 8, paragraph 86; page 11, paragraph 104; page 12, paragraph 117; Carlson discloses that the system of displaying to the user the service configuration policies which explain their availability and capabilities and the level of service such as gold, silver, bronze).

38. As to claim 25, Carlson teaches the system as recited in claim 22, wherein the data storage resource pool is configured as a switchable resource disk pool that is able to be configured to be assigned to one of at least two computing nodes (page 7, paragraph 75; Carlson discloses that the system of configuring API proxy objects capable of configuring switches including paths).

39. As to claim 27, Carlson teaches the system as recited in claim 25, wherein the validating comprises:

determining that the node is associated with a site containing the data storage resource pool (page 3, paragraph 45; Carlson discloses that the system of determined the storage device access service resource available), and

determining that the data storage resource pool is accessible by the new node (page 6, paragraph 67; Carlson discloses that the system of determined the storage devices which provided the availability of the storage devices and paths).

40. As to claim 28, Carlson teaches the system as recited in claim 25, wherein the processor is further configured to, when adding the switchable disk pool to the cluster resource group, verify accessibility of each disk unit in the switchable disk pool by each node in the cluster resource group recovery domain (page 3, paragraph 48; Carlson discloses that the system of verifying the availability when adding the new allocation storage resources).

41. As to claim 29, Carlson teaches the system as recited in claim 25, wherein the processor is further configured to verify that a switchable entity containing the switchable disk pool is not included in another cluster resource group (page 6, paragraph 63; Carlson discloses that the system of mapping the logical to physical storage according to the configuration policy).

42. As to claim 30, Carlson teaches the system as recited in claim 25, wherein the processor is further configured to validate when starting clustering switchability of the switchable resource pool between at least two nodes within the cluster resource group (page 9, paragraph 90 & 91; Carlson discloses that the system of determined the allocation and resource capabilities of the storage device).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

43. Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson, Patent No. 2003/0135609 A1 in view of Mayer, Patent No. 6,317,815 B1.

Carlson teaches the invention substantially as claimed including method, system, and program for determining a modification of a system resource configuration (see abstract).

44. As to claim 7, Carlson teaches the method as recited in claim 6. But Carlson fails to teach the claim limitation wherein the cluster resource group comprises a primary node and at least one backup node, wherein the primary node and the at least one backup node execute the OS/400 operating system and the data storage resource pool.

However, Mayer teaches method and apparatus for formatting data in a storage device (see abstract). Mayer teaches the limitation wherein the cluster resource group comprises a primary node and at least one backup node, wherein the primary node and

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the at least node backup node execute the OS/400 operating system and the data storage resource pool (col 11, lines 40-65; col 13, lines 20-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Carlson in view of Mayer so that using the OS/400 would control the access to any devices of the backup device. One would be motivated to do so to increase the performance and security of the system.

45. As to claim 26, Carlson teaches the system as recited in claim 25. But Carlson fails to teach the claim limitation comprising at least one backup node connected to the switchable resource pool, wherein the primary node and the at least node backup node execute the OS/400 operating system and the data storage resource pool is defined as an independent auxiliary storage pool.

However, Mayer teaches the limitation wherein at least one backup node connected to the switchable resource pool, wherein the primary node and the at least node backup node execute the OS/400 operating system and the data storage resource pool is defined as an independent auxiliary storage pool (col 11, lines 40-65; col 13, lines 20-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Carlson in view of Mayer so that using the OS/400 would control the access to any devices of the backup device. One would be motivated to do so to increase the performance and security of the system.

Response to Arguments

46. Applicant's arguments with respect to claim 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuong (Tina) Nguyen whose telephone number is 571-

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272-3864, and the fax number is 571-273-3864. The examiner can normally be reached on 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuong (Tina) Nguyen
Patent Examiner/Art Unit 2155



SALEH NAJJAR
SUPERVISORY PATENT EXAMINER